

## CLAIMS

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1. A subsystem controller for control of a device or subsystem within an electronic system implemented as a single integrated circuit, the subsystem controller comprising:

5        a complex programmable logic device that can be programmed to provide logic circuits that implement control functionality;

10      a micro-controller that can execute software routines that implement control functionality;

15      read-only memory that stores executable code for execution by the micro-  
controller;

20      random-access memory that can store data and executable code for execution by the micro-controller;

25      a bus interface for exchanging data and control signals between the subsystem controller and system processing components; and

30      an additional electronic interface to a device or subsystem controlled by the subsystem controller.

2. The subsystem controller of claim 1 wherein control functionality of the subsystem controller is partitioned between logic circuits programmed into the complex

35      programmable logic device and software routines executed by the micro-controller.

40      3. The subsystem controller of claim 1 programmed to control display of information on an LCD display window included in an external front panel display of a server computer.

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4. The subsystem controller of claim 1 wherein the bus interface is an I<sup>2</sup>C bus interface.

5. The subsystem controller of claim 1 wherein the additional electronic interface is an 8-bit input/output bus and additional signal lines.

6. A method for controlling a subsystem within a complex electrical device, the  
5 method comprising:

providing a single-IC subsystem controller;

programming control functionality into the single-IC subsystem controller by

programming logic circuits into a complex programmable logic device included in the single-IC subsystem controller,

10 implementing software routines for execution by a micro-controller within the single-IC subsystem controller, and

storing the software routines in the single-IC subsystem controller; and

interconnecting the single-IC subsystem controller to the subsystem within the complex electrical device.

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7. The method of claim 6 wherein the subsystem is an LCD display window that displays information about the components within the complex electrical device and about the state of the complex electrical device.

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8. The method of claim 6 wherein the complex electrical device is a computer system.

9. The method of claim 6 wherein the single-IC subsystem controller includes the complex programmable logic device, the micro-controller, a read-only memory, a  
25 random-access memory, a bus interface, and an additional electronic interface.

10. The method of claim 9 wherein interconnecting the single-IC subsystem controller to the subsystem within the complex electrical device further includes interconnecting the subsystem with the additional electronic interface.